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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/443,070 | 11/18/1999 | TERRY L. GILTON | 3530.2US | 6721 |

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EXAMINER

GABEL, GAILENE

ART UNIT

PAPER NUMBER

1641

DATE MAILED: 12/05/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/443,070 | GILTON, TERRY L. |
| | Examiner Gailene R. Gabel | Art Unit 1641 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 05 September 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2,8 and 12-31 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2,8 and 12-31 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Prosecution Reopened

1. In view of the Appeal Brief filed on 9/6/01, PROSECUTION IS HEREBY REOPENED. A Non-final Office Action is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claims Under Examination

2. Claims 1-2, 8, and 12-31 are pending and under examination.

Rejections Withdrawn

Claim Rejections - 35 USC § 112, 102, 103

3. In light of Applicant's argument, the rejection of claims 1-2, 8, 12-31 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that

the inventor(s), at the time the application was filed, had possession of the claimed invention is, hereby, withdrawn.

4. In light of Applicant's argument, the rejection of claims 1-2, 8, 14-16, 18-20, 22-23, and 26-28 under 35 U.S.C. 102(b) as being clearly anticipated by Isaka et al. (US 5,482,598) is, hereby, withdrawn.

5. In light of Applicant's argument, the rejection of claims 12-13, 21, 24-25, and new claims 30-31 under 35 U.S.C. 103(a) as being unpatentable over Isaka et al. (US 5,482,598) in view of Sunzeri (US 5,536,382) and Swedberg et al. (US 5,571,410) is, hereby, withdrawn.

6. In light of Applicant's argument, the rejection of claims 17 and 29 under 35 U.S.C. 103(a) as being unpatentable over Isaka et al. (US 5,482,598) in view of Northrup et al. (US 5,882,496) is, hereby, withdrawn.

New Grounds of Rejection

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1-2, 8, and 12-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Swedberg et al. (US 5,571,410).

Swedberg et al. disclose a miniaturized planar column device for use in chromatographically or electrophoretically separating and analysing analytes in a mobile phase (see Abstract and columns 12-14). The miniaturized columns are formed (laser ablated) into a substantially planar nonporous substrate (see column 11, lines 4-62 and column 15, lines 43-55). Swedberg et al. specifically disclose that the device has a stationary phase having porosity incorporated thereto (sample treatment component) which performs a filtration function filled with a biocompatible porous medium of particles into which a capture function has been incorporated therein. The capture substrate comprises antigens (biological affiant), antibody, lectin, enzyme substrate, capture oligonucleotide, etc. (see column 27). Swedberg et al. also disclose that each miniaturized column has a detector disposed proximate a detection region (see column 4, lines 52-67, columns 8-9, and column 17, lines 31-45). The device allows a variety of drawing (injection or motive force) methods including application of differential pressure (pressure injection), capillary action (hydrodynamic injection), and electrical current (electrokinetic injection or electroosmotic flow) (see column 5, lines 4-13, column 11, lines 58-63, and column 17, lines 47-64). Swedberg et al. also disclose a "LIGA" process wherein microstructures having high aspect ratios and increased structural precision and uniformity in channels ports, apertures, and microalignment means are fabricated into the device (see column especially column 13, lines 9-33). In Example I,

Swedberg et al. exemplify separation and determination of immunoglobulins wherein assay and detection reagents are incorporated into the device during analysis.

8. Claims 18, 21, and 26-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Northrup et al. (US 5,882,496).

Northrup et al. disclose porous silicon structures incorporated into miniaturized electrophoresis devices for use in isolation of constituents and filtering of components in a sample (see Abstract and columns 3 and 4). Northrup et al. disclose that porous silicon particles have very small pore diameters so that they can be produced with relatively high degree of uniformity and control (see column 1, lines 27-55). In electrophoresis devices, electrodes within or adjacent a porous membrane (capillary column) can be used to draw sample across the flow front and control flow of electrically charged biochemical species (see column 5, lines 21-67). A negative electrode is formed at one end (inlet) of the porous silicon membrane (column) and a positive electrode is formed is formed at an opposite end (outlet) of the porous silicon membrane, thereby forming microelectrophoresis channels (see column 7). Figure 8 illustrates a porous silicon electrophoresis device. Northrup et al. teach that because of its high surface area and specific pore size, porous silicon can be utilized for a variety of applications on a miniature scale for significantly augmenting adsorption, vaporization, desorption, condensation, and flow of liquids and gasses while maintaining the capability of modification such as being doped or coated using conventional integrated circuit and micromachining (see Summary).

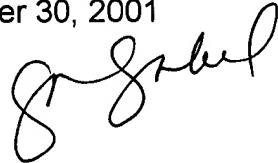
9. No claims are allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gailene R. Gabel whose telephone number is (703) 305-0807. The examiner can normally be reached on Monday to Thursday from 7:00 AM to 4:30 PM. The examiner can also be reached on alternate Fridays from 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, can be reached on (703) 305-3399. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Gailene R. Gabel
November 30, 2001



LONG V. LE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

12/03/01